



Sequence Listing

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TECH CENTER 1600/2900

<110> Adams, Sean  
Pan, James  
Zhong, Alan

<120> UCP4

<130> P1626R1

<140> US 09/397,342

<141> 1999-09-15

<150> US 60/101,279

<151> 1998-09-22

<150> US 60/114,223

<151> 1998-12-30

<150> US 60/129,674

<151> 1999-04-16

<160> 18

<210> 1

<211> 323

<212> PRT

<213> Homo sapiens

<400> 1

Met Ser Val Pro Glu Glu Glu Glu Arg Leu Leu Pro Leu Thr Gln  
1 5 10 15

Arg Trp Pro Arg Ala Ser Lys Phe Leu Leu Ser Gly Cys Ala Ala  
20 25 30

Thr Val Ala Glu Leu Ala Thr Phe Pro Leu Asp Leu Thr Lys Thr  
35 40 45

Arg Leu Gln Met Gln Gly Glu Ala Ala Leu Ala Arg Leu Gly Asp  
50 55 60

Gly Ala Arg Glu Ser Ala Pro Tyr Arg Gly Met Val Arg Thr Ala  
65 70 75

Leu Gly Ile Ile Glu Glu Glu Gly Phe Leu Lys Leu Trp Gln Gly  
80 85 90

Val Thr Pro Ala Ile Tyr Arg His Val Val Tyr Ser Gly Gly Arg  
95 100 105

Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly Lys Ser  
110 115 120

Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly Met  
125 130 135

Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu  
140 145 150

Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly  
155 160 165

Lys	Pro	Leu	Arg	Phe	Arg	Gly	Val	His	His	Ala	Phe	Ala	Lys	Ile
				170					175					180
Leu	Ala	Glu	Gly	Gly	Ile	Arg	Gly	Leu	Trp	Ala	Gly	Trp	Val	Pro
				185					190					195
Asn	Ile	Gln	Arg	Ala	Ala	Leu	Val	Asn	Met	Gly	Asp	Leu	Thr	Thr
				200					205					210
Tyr	Asp	Thr	Val	Lys	His	Tyr	Leu	Val	Leu	Asn	Thr	Pro	Leu	Glu
				215					220					225
Asp	Asn	Ile	Met	Thr	His	Gly	Leu	Ser	Ser	Leu	Cys	Ser	Gly	Leu
				230					235					240
Val	Ala	Ser	Ile	Leu	Gly	Thr	Pro	Ala	Asp	Val	Ile	Lys	Ser	Arg
				245					250					255
Ile	Met	Asn	Gln	Pro	Arg	Asp	Lys	Gln	Gly	Arg	Gly	Leu	Leu	Tyr
				260					265					270
Lys	Ser	Ser	Thr	Asp	Cys	Leu	Ile	Gln	Ala	Val	Gln	Gly	Glu	Gly
				275					280					285
Phe	Met	Ser	Leu	Tyr	Lys	Gly	Phe	Leu	Pro	Ser	Trp	Leu	Arg	Met
				290					295					300
Thr	Pro	Trp	Ser	Met	Val	Phe	Trp	Leu	Thr	Tyr	Glu	Lys	Ile	Arg
				305					310					315
Glu	Met	Ser	Gly	Val	Ser	Pro	Phe							
				320										

<210> 2  
 <211> 1039  
 <212> DNA  
 <213> Homo sapiens

<400> 2  
 ccgagctcgg atcccgttat cgtcttgccg tactgctgaa tgtccgtccc 50  
 ggaggaggag gagaggcttt tgccgctgac ccagagatgg ccccgagcga 100  
 gcaaattcct actgtccggc tgcgcggcta ccgtggccga gctagcaacc 150  
 tttcccctgg atctcacaaa aactcgactc caaatgcaag gagaagcagc 200  
 tcttgctcgg ttgggagacg gtgcaagaga atctgcccc tataggggaa 250  
 tggtgcgac agccctaggg atcattgaag aggaaggctt tctaaagctt 300  
 tggcaaggag tgacacccgc catttacaga cacgtagtgt attctggagg 350  
 tcgaatggtc acatatgaac atctccgaga ggttggtgtt ggcaaaagtg 400  
 aagatgagca ttatcccctt tggaaatcag tcattggagg gatgatggct 450  
 ggtgttattg gccagttttt agccaatcca actgacctag tgaaggttca 500  
 gatgcaaatg gaaggaaaaa ggaaactgga aggaaaacca ttgcgatttc 550  
 gtggtgtaca tcatgcattt gcaaaaatct tagctgaagg aggaatacga 600

gggctttggg caggctgggt acccaatata caaagagcag cactggtgaa 650  
 tatgggagat ttaaccactt atgatacagt gaaacactac ttggtattga 700  
 atacaccact tgaggacaat atcatgactc acggtttatc aagtttatgt 750  
 tctggactgg tagcttctat tctgggaaca ccagccgatg tcatcaaaag 800  
 cagaataatg aatcaaccac gagataaaca aggaagggga cttttgtata 850  
 aatcatcgac tgactgcttg attcaggctg ttcaaggatga aggattcatg 900  
 agtctatata aaggcttttt accatcttgg ctgagaatga ccccttggtc 950  
 aatggtgttc tggcttactt atgaaaaaat cagagagatg agtggagtca 1000  
 gtccatttta agaattctgc agatatccat cacactggc 1039

<210> 3  
 <211> 31  
 <212> DNA  
 <213> Artificial

<220>  
 <221> Misc-feature  
 <222> 1-31  
 <223> Sequence is synthesized

<400> 3  
 cgcgatccc gttatcgtct tgcgctactg c 31

<210> 4  
 <211> 34  
 <212> DNA  
 <213> Artificial

<220>  
 <221> Misc-feature  
 <222> 1-34  
 <223> reverse primer

<400> 4  
 gcggaattct taaaatggac tgactccact catc 34

<210> 5  
 <211> 1248  
 <212> DNA  
 <213> Artificial

<220>  
 <221> Misc-feature  
 <222> 1-1248  
 <223> Sequence is synthesized

<220>  
 <221> unsure  
 <222> 1231  
 <223> unknown base

<400> 5  
 cgttatcgtc ttgcgctact gctgaatgtc cgtcccggag gaggaggaga 50  
 ggcttttgcc gctgaccag agatggcccc gagcgagcaa attcctactg 100

tccggctgcg caggctaccgt ggccgagcta gcaacctttc ccctggatct 150  
 cacaaaaact cgactccaaa tgcaaggaga agcagctctt gctcggttgg 200  
 gagacggtgc aagagaatct gccccctata ggggaatggg ggcacagcc 250  
 ctagggatca ttgaagagga aggctttcta aagctttggc aaggagtgc 300  
 acccgccatt tacagacacg tagttatttc tggaggtcga atggtcacat 350  
 atgaacatct ccgagagggt gtgtttggca aaagtgaaga tgagcattat 400  
 cccctttgga aatcagtcag tggagggatg atggctgggt ttattggcca 450  
 gtttttagcc aatccaactg acctagtga ggttcagatg caaatggaag 500  
 gaaaaaggaa actggaagga aaaccattgc gatttcgtgg tgtacatcat 550  
 gcatttgcaa aaatcttagc tgaaggagga atacgaaggc tttgggcagg 600  
 ctgggtaccc aatatacaaa gagcagcact ggtgaatatg ggagatttaa 650  
 ccacttatga tacagtga cactacttgg tattgaatac accacttgag 700  
 gacaatatca tgactcacgg tttatcaagt ttatgttctg gactggtagc 750  
 ttctattctg ggaacaccag ccgatgtcat caaaagcaga ataataatc 800  
 aaccacgaga taaacaagga aggggacttt tgtataaatc atcgactgac 850  
 tgcttgattc aggtgttca aggtgaagga ttcagtgc tatataaagg 900  
 ctttttacca tottggtga gaatgacccc ttggtcaatg gtgttctggc 950  
 ttacttatga aaaaatcaga gagatgagtg gagtcagtcc attttaaacc 1000  
 cctaaagatg caacccttaa agatacagt ttcagtatta ttgaaatatg 1050  
 ggcatctgca acacataccc cctattattt ctacctttt aggaagacac 1100  
 ctattccaca gagactgatt tatagggggc agcactttat ttttttctgg 1150  
 aaaccaagt tctctttgac tctcttttt gtccaaaagt gatctgggtc 1200  
 gatctcacia ggccatccaa tgagaccccc nacagcattt tctaaaga 1248

<210> 6  
 <211> 58  
 <212> DNA  
 <213> Artificial  
 <220>  
 <221> Misc-feature  
 <222> 1-58  
 <223> Sequence is synthesized

<400> 6  
 cgcgatccg aaatggacta caaggacgac gatgacaagt ccgtcccga 50  
 ggaggagg 58

<210> 7  
 <211> 35

<212> DNA  
 <213> Artificial  
  
 <220>  
 <221> Misc-feature  
 <222> 1-35  
 <223> Sequence is synthesized  
  
 <400> 7  
 gcgaagcttg ccatggttgg actgaagcct tcaga 35  
  
 <210> 8  
 <211> 33  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <221> Misc-feature  
 <222> 1-33  
 <223> reverse primer  
  
 <400> 8  
 cgcaattct caaaacggtg attcccgtaa cat 33  
  
 <210> 9  
 <211> 61  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <221> Misc-feature  
 <222> 1-61  
 <223> Sequence is synthesized  
  
 <400> 9  
 gcgaagcttg ccatggacta caaggacgac gatgacaagg ttggactgaa 50  
  
 gccttcagac g 61  
  
 <210> 10  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <221> Misc-feature  
 <222> 1-19  
 <223> Sequence is synthesized  
  
 <400> 10  
 aatgcctatc gccgaggag 19  
  
 <210> 11  
 <211> 20  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <221> Misc-feature  
 <222> 1-20  
 <223> reverse primer

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<400> 11
  gtaggaactt gtcgtccgg 20

<210> 12
<211> 22
<212> DNA
<213> Artificial

<220>
<221> Misc-feature
<222> 1-22
<223> Sequence is synthesized

<400> 12
  tgctcgcgct cacgcagaga tg 22

<210> 13
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Misc-feature
<222> 1-24
<223> Sequence is synthesized

<400> 13
  gaaatcgtgc gtgacatcaa agag 24

<210> 14
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Misc-feature
<222> 1-23
<223> reverse primer

<400> 14
  ctccttctgc atcctgtcag caa 23

<210> 15
<211> 22
<212> DNA
<213> Artificial

<220>
<221> Misc-feature
<222> 1-22
<223> Sequence is synthesized

<400> 15
  cggttccgat gccctgaggc tc 22

<210> 16
<211> 307
<212> PRT
<213> Homo sapiens

<400> 16
  Met Gly Gly Leu Thr Ala Ser Asp Val His Pro Thr Leu Gly Val
    1              5              10              15

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Gln	Leu	Phe	Ser	Ala	Pro	Ile	Ala	Ala	Cys	Leu	Ala	Asp	Val	Ile	20	25	30
Thr	Phe	Pro	Leu	Asp	Thr	Ala	Lys	Val	Arg	Leu	Gln	Val	Gln	Gly	35	40	45
Glu	Cys	Pro	Thr	Ser	Ser	Val	Ile	Arg	Tyr	Lys	Gly	Val	Leu	Gly	50	55	60
Thr	Ile	Thr	Ala	Val	Val	Lys	Thr	Glu	Gly	Arg	Met	Lys	Leu	Tyr	65	70	75
Ser	Gly	Leu	Pro	Ala	Gly	Leu	Gln	Arg	Gln	Ile	Ser	Ser	Ala	Ser	80	85	90
Leu	Arg	Ile	Gly	Leu	Tyr	Asp	Thr	Val	Gln	Glu	Phe	Leu	Thr	Ala	95	100	105
Gly	Lys	Glu	Thr	Ala	Pro	Ser	Leu	Gly	Ser	Lys	Ile	Leu	Ala	Gly	110	115	120
Leu	Thr	Thr	Gly	Gly	Val	Ala	Val	Phe	Ile	Gly	Gln	Pro	Thr	Glu	125	130	135
Val	Val	Lys	Val	Arg	Leu	Gln	Ala	Gln	Ser	His	Leu	His	Gly	Ile	140	145	150
Lys	Pro	Arg	Tyr	Thr	Gly	Thr	Tyr	Asn	Ala	Tyr	Arg	Ile	Ile	Ala	155	160	165
Thr	Thr	Glu	Gly	Leu	Thr	Gly	Leu	Trp	Lys	Gly	Thr	Thr	Pro	Asn	170	175	180
Leu	Met	Arg	Ser	Val	Ile	Ile	Asn	Cys	Thr	Glu	Leu	Val	Thr	Tyr	185	190	195
Asp	Leu	Met	Lys	Glu	Ala	Phe	Val	Lys	Asn	Asn	Ile	Leu	Ala	Asp	200	205	210
Asp	Val	Pro	Cys	His	Leu	Val	Ser	Ala	Leu	Ile	Ala	Gly	Phe	Cys	215	220	225
Ala	Thr	Ala	Met	Ser	Ser	Pro	Val	Asp	Val	Val	Lys	Thr	Arg	Phe	230	235	240
Ile	Asn	Ser	Pro	Pro	Gly	Gln	Tyr	Lys	Ser	Val	Pro	Asn	Cys	Ala	245	250	255
Met	Lys	Val	Phe	Thr	Asn	Glu	Gly	Pro	Thr	Ala	Phe	Phe	Lys	Gly	260	265	270
Leu	Val	Pro	Ser	Phe	Leu	Arg	Leu	Gly	Ser	Trp	Asn	Val	Ile	Met	275	280	285
Phe	Val	Cys	Phe	Glu	Gln	Leu	Lys	Arg	Glu	Leu	Ser	Lys	Ser	Arg	290	295	300
Gln	Thr	Met	Asp	Cys	Ala	Thr									305		

<210> 17  
 <211> 309  
 <212> PRT

• <213> Homo sapiens

<400> 17

Met	Val	Gly	Phe	Lys	Ala	Thr	Asp	Val	Pro	Pro	Thr	Ala	Thr	Val	1	5	10	15
Lys	Phe	Leu	Gly	Ala	Gly	Thr	Ala	Ala	Cys	Ile	Ala	Asp	Leu	Ile	20	25	30	
Thr	Phe	Pro	Leu	Asp	Thr	Ala	Lys	Val	Arg	Leu	Gln	Ile	Gln	Gly	35	40	45	
Glu	Ser	Gln	Gly	Pro	Val	Arg	Ala	Thr	Val	Ser	Ala	Gln	Tyr	Arg	50	55	60	
Gly	Val	Met	Gly	Thr	Ile	Leu	Thr	Met	Val	Arg	Thr	Glu	Gly	Pro	65	70	75	
Arg	Ser	Leu	Tyr	Asn	Gly	Leu	Val	Ala	Gly	Leu	Gln	Arg	Gln	Met	80	85	90	
Ser	Phe	Ala	Ser	Val	Arg	Ile	Gly	Leu	Tyr	Asp	Ser	Val	Lys	Gln	95	100	105	
Phe	Tyr	Thr	Lys	Gly	Ser	Glu	His	Ala	Ser	Ile	Gly	Ser	Arg	Leu	110	115	120	
Leu	Ala	Gly	Ser	Thr	Thr	Gly	Ala	Leu	Ala	Val	Ala	Val	Ala	Gln	125	130	135	
Pro	Thr	Asp	Val	Val	Lys	Val	Arg	Phe	Gln	Ala	Gln	Ala	Arg	Ala	140	145	150	
Gly	Gly	Gly	Arg	Arg	Tyr	Gln	Ser	Thr	Val	Asn	Ala	Tyr	Lys	Thr	155	160	165	
Ile	Ala	Arg	Glu	Glu	Gly	Phe	Arg	Gly	Leu	Trp	Lys	Gly	Thr	Ser	170	175	180	
Pro	Asn	Val	Ala	Arg	Asn	Ala	Ile	Val	Asn	Cys	Ala	Glu	Leu	Val	185	190	195	
Thr	Tyr	Asp	Leu	Ile	Lys	Asp	Ala	Leu	Leu	Lys	Ala	Asn	Leu	Met	200	205	210	
Thr	Asp	Asp	Leu	Pro	Cys	His	Phe	Thr	Ser	Ala	Phe	Gly	Ala	Gly	215	220	225	
Phe	Cys	Thr	Thr	Val	Ile	Ala	Ser	Pro	Val	Asp	Val	Val	Lys	Thr	230	235	240	
Arg	Tyr	Met	Asn	Ser	Ala	Leu	Gly	Gln	Tyr	Ser	Ser	Ala	Gly	His	245	250	255	
Cys	Ala	Leu	Thr	Met	Leu	Gln	Lys	Glu	Gly	Pro	Arg	Ala	Phe	Tyr	260	265	270	
Lys	Gly	Phe	Met	Pro	Ser	Phe	Leu	Arg	Leu	Gly	Ser	Trp	Asn	Val	275	280	285	
Val	Met	Phe	Val	Thr	Tyr	Glu	Gln	Leu	Lys	Arg	Ala	Leu	Met	Ala	290	295	300	



Ala Cys Thr Ser Arg Glu Ala Pro Phe  
305

<210> 18  
<211> 300  
<212> PRT  
<213> Homo sapiens

<400> 18  
Met Ala Val Lys Phe Leu Gly Ala Gly Thr Ala Ala Cys Phe Ala  
1 5 10 15  
Asp Leu Val Thr Phe Pro Leu Asp Thr Ala Lys Val Arg Leu Gln  
20 25 30  
Ile Gln Gly Glu Asn Gln Ala Val Gln Thr Ala Arg Leu Val Gln  
35 40 45  
Tyr Arg Gly Val Leu Gly Thr Ile Leu Thr Met Val Arg Thr Glu  
50 55 60  
Gly Pro Cys Ser Pro Tyr Asn Gly Leu Val Ala Gly Leu Gln Arg  
65 70 75  
Gln Met Ser Phe Ala Ser Ile Arg Ile Gly Leu Tyr Asp Ser Val  
80 85 90  
Lys Gln Val Tyr Thr Pro Lys Gly Ala Asp Asn Ser Ser Leu Thr  
95 100 105  
Thr Arg Ile Leu Ala Gly Cys Thr Thr Gly Ala Met Ala Val Thr  
110 115 120  
Cys Ala Gln Pro Thr Asp Val Val Lys Val Arg Phe Gln Ala Ser  
125 130 135  
Ile His Leu Gly Pro Ser Arg Ser Asp Arg Lys Tyr Ser Gly Thr  
140 145 150  
Met Asp Ala Tyr Arg Thr Ile Ala Arg Glu Glu Gly Val Arg Gly  
155 160 165  
Leu Trp Lys Gly Thr Leu Pro Asn Ile Met Arg Asn Ala Ile Val  
170 175 180  
Asn Cys Ala Glu Val Val Thr Tyr Asp Ile Leu Lys Glu Lys Leu  
185 190 195  
Leu Asp Tyr His Leu Leu Thr Asp Asn Phe Pro Cys His Phe Val  
200 205 210  
Ser Ala Phe Gly Ala Gly Phe Cys Ala Thr Val Val Ala Ser Pro  
215 220 225  
Val Asp Val Val Lys Thr Arg Tyr Met Asn Ser Pro Pro Gly Gln  
230 235 240  
Tyr Phe Ser Pro Leu Asp Cys Met Ile Lys Met Val Ala Gln Glu  
245 250 255  
Gly Pro Thr Ala Phe Tyr Lys Gly Phe Thr Pro Ser Phe Leu Arg  
260 265 270

Leu	Gly	Ser	Trp	Asn	Val	Val	Met	Phe	Val	Thr	Tyr	Glu	Gln	Leu
				275					280					285
Lys	Arg	Ala	Leu	Met	Lys	Val	Gln	Met	Leu	Arg	Glu	Ser	Pro	Phe
				290					295					300